

SEQUENCE LISTING

<110> BASF Plant Science GmbH

5 <120> Transgenic expression constructs for vegetative plant tissue
specific expression of nucleic acids
<130> PF55368 PCT / AE20040055
<160> 19
<170> PatentIn version 3.3

10 <210> 1
<211> 863
<212> DNA
<213> Pisum sativum

15 <220>
<221> promoter
<222> (1)..(863)
<223> promoter region of ptxA gene including 5'-untranslated region

20 <220>
<221> misc_feature
<222> (300)..(583)
<223> potential core region of the promoter comprising clusters of
25 promoter elements

<220>
<221> TATA_signal
<222> (549)..(554)

30 <220>
<221> 5'UTR
<222> (584)..(863)

35 <400> 1
gcaattttt gtgaagctga gggaggattg gatttacac ctattcaaaa gtcattcaaa 60
gtttgtccct ccattcaagg atgaatgttag attttcaag catcaaacac aagaatcact
agcataacat gcttgaaac ccacacactt aaattaatgt taggaatatac aaatccaata 120
taaaatcata gttgtcaatt acatactcaa tcaagtccct ttcttttacc caataaacat 180
40 caacatattg cttcttccat taagcatata aacatcaaag tctaaaacta gcaaaatgtt 240
gttttttagga tgacacatTT catabatgtt ttaaaaagata cttgattcga ttacaaaaag 300
aaattaccaa tagtttagca caaagtctaa agcataatta aagcatcaca tgtgcagatt 360
tatgaaaaaa agattaagat tgccccttgc atcacgggtc gaataatagc actacttgtc 420
actacatgtt aaaaaaatgt cctcttagtac atcaaaacttt ttccattgtat tciccttatac 480
45 catgaaaaaa ataaacaaaat tcttaagaca caaaaaaatg gccccacatc ctttttctg 540
gcctagtttgc tttgaattca ttcttaactct tgaatatgtt acgaggccca ctaaaaatca 600
atcaatgtt taacataaaa aatgaatagt ttaattccaa tttgctgcaatcggtccgt 660
720

2

	aatatgtact cacgagaaag atatatcaaa atatcaaaa ttcatalogtt tttcacccat	780
	ataaacctca tcactcattc tatttttta agtgaaagc ttcatalogtag tgagcacaca	840
	cattacacta aaatcttcga aac	863
5	<210> 2	
	<211> 1380	
	<212> DNA	
	<213> Glycine max	
10	<220>	
	<221> promoter	
	<222> (1)..(1380)	
	<223> promoter region of SbHRGP3 gene including 5' untranslated region	
15	<220>	
	<221> misc_feature	
	<222> (800)..(1179)	
	<223> potential core region of the promoter comprising clusters of promoter elements	
20	<220>	
	<221> TATA_signal	
	<222> (1147)..(1152)	
25	<220>	
	<221> 5'UTR	
	<222> (1180)..(1380)	
	<223> potential 5' UTR	
30	<400> 2	
	tagaaagctt ttcaacaatc atgcccattt caagtgtaaa acagggttac ctctcttaaa	60
	taaccgtatt aaaatgctga atgatgtata tatgtgggtt caaattacat aatttgtaag	120
	tatgttacac attgtataaa tatgttttag agaaaaatgt aaacttataat gtctaaagtt	180
	ataaaagaaa catgtccaaac acatttcagt taagatttaa atagtataaa ttaaaaatta	240
35	tcgatgtatca caaaaaaaaa taaatataat tcattttaaa aaaagttaag aaattgaaaa	300
	aggaaatatac gagaaaaaaaaa tatgtcgatt atatataatgt gtgagctgag tgaatata	360
	tgttatattt atttttgact gaatataatgt gtgtatagac aataatgcgc agaatgccga	420
	tcgatgaatt gtttactgca tttccaaata tgtgtgcata agcgttccac atgtcaccca	480
	tgttgtaatt agtttcttcc ctggatgaat tactaagaaa cagattgatt gatagtacta	540
40	tattaaatca tttttttttt catgtcagga aaatgttagtt gcagtattat gtaatgtaat	600
	taataggaag tcacagacaa tttgaagaca atttctttag ctacatc tcatgccaca	660
	attatgtact tacgacagta aaatgtttaa aagcaaaaaa aagaaagaag aagaagaagt	720
	aataaaatgga attatataaga atgtactttt tttttttttt tgccctataa ttcttcgcgc	780
	agccaaagca taatagcgtt caatatgcac atattcgttt taggcttttta gcctccacga	840
45	tctgttaatg gaaagtgaaa agtaagagat atgaagtca ttatggcagc catggccccca	900
	gggaaggact agaagatatg aaatgacata aaaggtcacc atgcataatg cttaaatgc	960
	ttqctataqa atcaaaaaat qaaqagatgt gacaaattgt tacatcta atcgcataat	1020

ttgacaaaaga cgactatgcg tttatatatt tatttaatt agttggcgtc tcatttata 1080
aagaaaataa gggcagtgtc aacattcca ggcaactagt tagttatttt atttcttgt 1140
ttataattat ttccatatacg ctatgtct ctatctaattc caaatccgct ttccacaacc 1200
aacttggtcg cattggtcca aaaaactcaa tatcaatatt ttcgaaatag ttttagcatt 1260
5 gtttaggaag agaattgtaa gagataaaat ctaagtactc cacctaccaa gataaaatag 1320
ttggataaaat gggtaaaaaa agttgtataa agggcaacac tacctctcct aatggcagta 1380

<210> 3
<211> 26
10 <212> DNA
<213> Artificial

<220>
<223> Oligonucleotide primer ptxA5'

15 <400> 3
ggcgccgccccg caatttttg tgaagc 26

<210> 4
20 <211> 25
<212> DNA
<213> Artificial

<220>
25 <223> Oligonucleotide primer ptxA3'

<400> 4
tctagataag tttcgaagat tttag 25

30 <210> 5
<211> 29
<212> DNA
<213> Artificial

35 <220>
<223> Oligonucleotide primer SbHRGP3-5'

<400> 5
tctagataga agctttcaa caatcatgc 29

40 <210> 6
<211> 24
<212> DNA
<213> Artificial

45 <220>
<223> Oligonucleotide primer SbHRGP3-3'

```

<400> 6
agatcttact gccatttagga gagg

5 <210> 7
<211> 1381
<212> DNA
<213> Glycine max

10 <220>
<221> promoter
<222> (1)..(1368)

<220>
15 <221> misc_feature
<222> (801)..(1178)
<223> potential core region of promoter

<220>
20 <221> TATA_signal
<222> (1146)..(1151)

<220>
<221> 5'UTR
25 <222> (1369)..(1381)

<400> 7
aagctttca acaatcatgc ccatgtcaag tgtaaaacag gtttacctct cttaaataac 60
cgtattaaaa tgctgaatga tgtatatatg tgggttcaaa ttacataatt tgtaagtatg
30 ttacacattg tataaatatg ttttagagaa aaatgtaaac ttataatgtct aaagtataa 120
aagaaacatg tccaaacacat ttcaagttaaat atttaaatag tataattaaa aattatcgat 180
gatgacaaaaa aattgtaaat ataattcatt ttaaaaaaaaaag ttaagaaatt gaaaaaggaa 240
atatcgagaa aaaaatatgt cgattatata tatgtgtgag ctgagtgaat atatatgtat 300
attttatttt tgactgaata tatgtgtgta tagacaataa tgccgagaat gccgatcgat 360
35 gaatitgtta ctgcatttcc aaatatgtgt gcataagcgt tccacatgtc acccatgtt 420
taatttagttt cttccctgga tgaattacta agaaaacagat tgattgatag tactatatta 480
aattatgttag ctttacatgt cagggaaaatg tagttgcagt attatgtaa gtaattaata 540
ggaagtcaca gacaatttga agacaatttc ttttagcttac ctatctcatg ccacaattat 600
gtacttacga cagaaaaatg tttaaaagca aaagaaaaaa aaagaaaagaa gaagaagaag 660
40 taataaaatgg aatttatatacg aatgtactct ttgtcttcat ctgccctata attcctgcag 720
cagccaaagc ataatagcat gcaaatatgca catattcggt ttaggctttt agctccacga 780
tctgttaatg gaaagtgaaa agtaagagat atgaagttca ttatggcagc catggtccca 840
gggaagcact agaagatatg aaatgactaa aaggtcacca tgcataatgc tttaaatgt 900
tgctatagaa tcaaaaaatg aagagatgtg acaaattgtt acatctaata cgcaataatt 960
45 tgacaaaagac gactatgcgt ttatatatattt attttaatta gttggcgtct cttattataa 1020
agaaaataag ggcagtgtca acatttccag gcaacttagtt agttatttttta ttttcttgc 1080
tataattatttccatataqc tagctgtctc tatctaattcc aaatccgcgt tccacacaacc 1140
1200

```

acttggtcca aaaaactcaa tatcaatatt ttcaaaaatag ttttagcatt gtttaggaag 1260
 agaattgtaa gagataaaat ctaagtactc cacctaccaa gataaaaatag ttggataaat 1320
 gggtaaaaaaa gttgtataaa gggcaacact acctctccta atggcagtc caaaaaccaa 1380
 g 1381

5

<210> 8
 <211> 1388
 <212> DNA
 <213> Glycine max

10

<220>
 <221> promoter
 <222> (1)..(1175)
 <223> potential promoter region

15

<220>
 <221> misc_feature
 <222> (796)..(1175)
 <223> potential core region of promoter

20

<220>
 <221> TATA_signal
 <222> (1143)..(1148)

25

<220>
 <221> 5'UTR
 <222> (1176)..(1388)

30

<400> 8

aagctttca acaatcatgc ccatgtcaag tgtaaaaacag gtttacctct cttaaataac 60
 cgtattaaaa tgctgaatga tgtatatatg tgggttcaaa ttacataatt tgtaagtatg 120
 ttacacattg tataaatatg ttttagagaa aaatgtaaac ttatatgtct aaagttataa 180
 aagaaacatg tccaaacacat ttcaagttaa atttaaatag tataaattaa aaattatcg 240
 tcatgtacaaa aaattgtaaa tataattcat tttaaaaaaaa gttaagaaat tgaaaaagga 300

35

aatatcgaga aaaaaatatg tcgattatat atatgtgtga gctgagtgaa tatatatgt 360
 tattttattt ttgactgaat atatgtgtgt atagacaata atgcgcagaa tgccgatcga 420
 tgaattgttt actgcatttc caaatatgtg tgcataagcg ttccacatgt caccatgtt 480
 gtaatttagtt tcttccctgg atgaattact aagaaaacaga ttgattgata gtactatatt 540
 aaattatgtt gctttacatg tcaggaaaat gtatgtcag tattatgtaa tgtaattaaat 600

40

aggaagtcac agacaatttg aagacaattt cttagctt cctatctcat gccacaatta 660
 tgtacttacg acagtaaaaat gttaaaagc aaaaaaaaaaaga aagaagaaga agaagtaata 720
 aatggaaatta tatagaatgt actctttgtc ttcatctgcc ctataattcc tgcagcagcc 780
 aaagcataat agcatgcaat atgcacatat tcgttttagg cttttagcct ccacgatcg 840
 ttaatggaaa gtggaaaatga agagatatga agttcattat ggccagccatg gtcggcgg 900

45

agcactagaa gatatgaaat gacataaaag gtcaccatgc ataatgcttt aaatgcttc 960
 tatagaatca aaaaatgaag agatgtgaca aattgttaca tctaaatacgc aataatttga 1020
 caaaqacgac tatqcgttta tatattttt ttaatttagt qgcgtcttt attataaaga 1080

	aaataaggc agtgtcaaca tttccaggca actagttgt tattttat tcttgtttat	1140
	aattatttcc atatagctag ctgtctctat ctaatccaaa tccgctttcc acaaccaact	1200
	tggtcgcatt ggtccaaaaa actcaatato aatattttcg aaatagttt agcattgttt	1260
	aggaagagaa ttgtaagaga taaaatctaa gtactccacc taccaagata aaatagttgg	1320
5	ataaatgggt aaaaaaagtt gtataaaggc caacactacc tctcctaattg gcagtaccaa	1380
	aacccaagg	1388
	<210> 9	
	<211> 1373	
10	<212> DNA	
	<213> Glycine max	
	<220>	
	<221> promoter	
15	<222> (1)..(1172)	
	<223> potential promoter region	
	<220>	
	<221> misc_feature	
20	<222> (793)..(1172)	
	<223> potential core region of promoter	
	<220>	
	<221> TATA_signal	
25	<222> (1140)..(1145)	
	<220>	
	<221> 5'UTR	
	<222> (1173)..(1373)	
30	 	
	<400> 9	
	cttttcaaca atcatgccca tgtcaagtgt aaaacagggt tacctctttt aaataaccgt	60
	attaaaaatgc tgaatgatgt atatatgtgg gttcaaatta cataatttgt aagtatgtta	120
	cacattgtat aaatatgttt tagagaaaaa tgtaaactta tatgtctaaa gttataaaag	180
35	aaacatgtcc aacacatttc agttaagatt taaatagttt aaattaaaaa ttatcgatga	240
	tgacaaaaaaa ttgtaaatat aattcatttt aaaaaaagtt aagaaattga aaaaggaaat	300
	atcgagaaaa aaatatgtcg attatatata tgtgtgagct gagtgaatat atatgttat	360
	tttatttttgc actgaatata tgtgtgtata gacaataatg cgcagaatgc cgatcgatga	420
	attgtttact gcatttccaa atatgtgtgc ataagcgttc cacatgtcac ccatgttgc	480
40	attagtttct tccctggatg aattactaag aaacagattt attgatagta ctatattaa	540
	ttatgttagct ttacatgtca ggaaaaatgtt gttgcagttat tatgtatgtt aattaatagg	600
	aagtcacaga caatttgaag acaatttctt tagcttacct atctcatgcc acaattatgt	660
	acttacgaca gtaaaaatgtt taaaagcaaa aaaaagaaag aagaagaaga agtaataat	720
	ggaatttat agaatgtact ctttgttttc atctgcccta taattccctgc agcagccaaa	780
45	gcataatagc atgcaatatg cacatattcg ttttaggctt ttagcctcca cgatctgtta	840
	atggaaaatgtt aaaagtaaga gatatgaagt tcattatggc agccatggc ccagggaaagc	900
	actagaagat atgaaatgac ataaaaggc accatgcata atgctttaaa tgcttgctat	960

agaatcaaaa aatgaagaga tgtgacaaaat tgttacatct aatacgcaat aatttgacaa 1020
agacgactat gcgttatata atttattta attagttggc gtctcttatt ataaagaaaa 1080
taaggcgagt gtcaacattt ccaggcaact agtttagttat tttatTTTCT tgTTTATAAT 1140
tatTTCCATA tagCTAGCTG tCTCTATCTA atCCAAATCC GCTTCCACA accaacttgg 1200
5 tcgcattggc ccaaaaaact caatatcaat atttcgaaa tagttttagc attgttttagg 1260
aagagaattt taagagataa aatctaagta ctccacctac caagataaaa tagttggata 1320
aatgggtaaa aaaagttgt aaaaggcaaa cactacctct cctaattggca gta 1373

10 <210> 10
<211> 1924
<212> DNA
<213> Artificial

15 <220>
<223> Artificial construct of ptxA promoter and ubiquitin intron

20 <220>
<221> promoter
<222> (1)..(583)
<223> potential promoter region

25 <220>
<221> misc_feature
<222> (300)..(583)
<223> potential core region of promoter

30 <220>
<221> TATA_signal
<222> (549)..(554)

35 <220>
<221> misc_feature
<222> (829)..(874)
<223> multiple cloning site

40 <220>
<221> Intron
<222> (875)..(1924)
<223> Zea mais ubiquitin intron

45 <400> 10
gcaattttt gtgaagctga gggaggattg gatTTTACAC ctattcaaaa gtcattcaaa 60
gtttgtccct ccattcaagg atgaatgtag attttcaag catcaaacac aagaatcact 120

	agcataacat gcttgaaac ccacacactt aaattaatgt taggaatatc aaatccaata	180
	taaaatcata gttgtcaatt acatactcaa tcaagtccct ttcttttacc caataaacat	240
	caacatattg cttcttccat taagcatata aacatcaaag tctaaaacta gcaaaaatgtt	300
	gttttagga tgacacattt catacatagt ttaaaaagata cttgattcga ttacaaaaag	360
5	aaattaccaa tagtttagca caaagtctaa agcataatta aagcatcaca tgtgcagatt	420
	tatgaaaaaa agattaagat tgccccttc atcacgggtc gaataatagc actacttgtc	480
	actacatgtt aaaaaaatgt cctctagttac atcaaacttt ttccattgtat tccccttatc	540
	catgaaaaaa ataaacaaat tcttaagaca caaaaaaatg gccccacatc cttttttctg	600
	gccttagtttgc tttagattca ttctaactct tgaatatgtt acgaggccca ctaaaaatca	660
10	atcaatgatt taacataaaa aatgaatagt ttaattccaa tttgctgaa catggtcgt	720
	gaatatgact cacgagaaag atatatcaa atatcaaaat ttcatagttt ttttaccat	780
	ataaaacctca tcactcattc tatttttttta agtgcaaagc ttcatagttt attaaggcgc	840
	gccaaagcttgc catgctgca ggtcgactct agaggatctc ccccaaatcc acccgctggc	900
	acctccgctt caaggtacgc cgctcgtcct ccccccccccc ccctctctac cttctctaga	960
15	tcggcggttcc ggtccatgggt tagggcccg tagttctact tctgttcatg tttgtgttag	1020
	atccgtgttt gtgttagatc cgtgctgcta gcgttcgtac acggatgcga cctgtacgtc	1080
	agacacgttc tgattgctaa ctggccagtg tttctctttt gggaatcctg ggatggctct	1140
	agccgttccg cagacgggat cgatttcatg atttttttt ttcgttgca tagggtttgg	1200
	tttgcctt tccttttattt caatatatgc cgtgcacttg tttgtcggtt catctttca	1260
20	tgctttttt tggatgggtt gtgatgatgt ggtctgggtt ggcggtcgtt ctagatcgga	1320
	gtagaattct gtttcaaact acctggtgga tttattaaatt ttggatctgt atgtgtgtgc	1380
	catacatatt catagttacg aattgaagat gatggatgga aatatcgatc taggataggt	1440
	atacatgttg atgcgggttt tactgatgca tatacagaga tgcttttgt tcgcttggtt	1500
	gtgatgatgt ggtgtgggtt ggcggtcgtt cattcggtt agatcggtt agaataactgt	1560
25	ttcaaaactac ctgggttattt tattaaattt ggaactgtat gtgtgtgtca tacatcttca	1620
	tagttacgag tttaagatgg atggaaatat cgatctagga taggtataca tggatgtgt	1680
	gtttttactg atgcataatac atgatggcat atgcagcattc tattcatatg ctctaacctt	1740
	gagttacctat ctattataat aaacaagtat gttttataat tattttgtat ttgatataact	1800
	tggatgatgg catatgcagc agctatatgt ggattttttt agccctgcct tcatacgatc	1860
30	tttattttgtt tggtactgtt tctttgtcg atgctcaccc tggatgggttgg tggtacttct	1920
	qcaq	1924

<210> 11

<211> 23

35 <212> DNA
<213> Art:

<220>

<223> oligonucleotide primer ptxA3'-2

40 <400> 11
tctagataaaa ctatgaagct ttg

<210> 12

<211> 22

<212> DNA

<213> Artificial

<220>
<223> oligonucleotide primer

5 <400> 12
ccgcttcgaa accaatgcct aa 22

<210> 13
<211> 24

10 <212> DNA
<213> Artificial

<220>
<223> oligonucleotide primer

15 <400> 13
tggtcgtcat gaagatgcgg actt 24

<210> 14
20 <211> 20
<212> DNA
<213> Artificial

<220>

25 <223> Oligonucleotide primer ptxaF1
<400> 14
gggccaaagga catagtagaaa 20

30 <210> 15
<211> 20
<212> DNA
<213> Artificial

35 <220>
<223> Oligonucleotide primer ptxaR1
<400> 15
tgaaggttaca aacgctgaca 20

40 <210> 16
<211> 20
<212> DNA
<213> Artificial

45 <220>
<223> Oligonucleotide primer ptxaR1

<400> 16
agagcatcac acgcaatcaa

20

5 <210> 17
<211> 20
<212> DNA
<213> Artificial

10 <220>
<223> Oligonucleotide primer SbHRGP3-F1

<400> 17
catgtgcgcg tacttttgcg

20

15 <210> 18
<211> 20
<212> DNA
<213> Artificial

20 <220>
<223> Oligonucleotide primer SbHRGP3-F1

<400> 18
25 atgaagaata taaggccaata

20

<210> 19
<211> 20
<212> DNA

30 <213> Artificial

<220>
<223> Oligonucleotide primer SbHRGP3-R1

35 <400> 19
agtgccatac aactgtctaa

20